



SEQUENCE LISTING

<110> EraGen Biosciences, Inc.  
Grenier, Jennifer  
Marshall, David  
Prudent, James  
Richmond, Craig  
Roesch, Eric  
Scherrer, Christopher  
Sherrill, Christopher  
Ptacin, Jerod

<120> Solid Support Assay Systems and Methods Utilizing Non-Natural  
Bases

<130> PAT015-US5

<140> 09/977,615  
<141> 2001-10-15

<150> 60/240,397  
<151> 2000-10-14

<150> 60/282,831  
<151> 2001-04-10

<150> 09/861,292  
<151> 2001-05-18

<150> 60/293,259  
<151> 2001-05-22

<160> 165

<170> PatentIn version 3.2

<210> 1  
<211> 10  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (3)..(3)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (6)..(6)  
<223> n represents iso-cytosine

<400> 1  
gangtntgtc

10

<210> 2  
<211> 10  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (2)..(2)

<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (6)..(6)  
<223> n represents iso-cytosine

<400> 2  
cngttnttcc

10

<210> 3  
<211> 10  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (3)..(3)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (7)..(7)  
<223> n represents iso-cytosine

<400> 3  
ggnttgntag

10

<210> 4  
<211> 10  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (4)..(4)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (6)..(6)  
<223> n represents iso-cytosine

<400> 4  
cttngntctc

10

<210> 5  
<211> 10  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (2)..(2)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (6)..(6)  
<223> n represents iso-cytosine

<400> 5  
cntcangaac

10

<210> 6  
<211> 10  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (5)..(5)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (8)..(8)  
<223> n represents iso-cytosine

<400> 6

gtagntangc

10

<210> 7  
<211> 10  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (4)..(4)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (6)..(6)  
<223> n represents iso-cytosine

<400> 7  
ggangntaac

10

<210> 8  
<211> 10  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (2)..(2)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (7)..(7)  
<223> n represents iso-cytosine

<400> 8  
cngtatngtg

10

<210> 9  
<211> 10  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (4)..(4)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (10)..(10)  
<223> n represents iso-cytosine

<400> 9  
catnggtang

10

<210> 10  
<211> 10  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (5)..(5)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (9)..(9)  
<223> n represents iso-cytosine

<400> 10  
gattntcgnc

10

<210> 11  
<211> 10  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (4)..(4)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (6)..(6)  
<223> n represents iso-cytosine

<400> 11  
gttnangacc

10

<210> 12  
<211> 10  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (2)..(2)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (6)..(6)  
<223> n represents iso-cytosine

<400> 12  
cngaangatc

10

<210> 13  
<211> 10  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (4)..(4)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (9)..(9)  
<223> n represents iso-cytosine

<400> 13  
caantacgnc

10

<210> 14  
<211> 10  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>

<221> modified\_base  
<222> (4)..(4)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (8)..(8)  
<223> n represents iso-cytosine

<400> 14  
cggnatanac

10

<210> 15  
<211> 10  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (2)..(2)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (6)..(6)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (7)..(7)  
<223> n represents iso-cytosine

<400> 15  
gnaaannagg

10

<210> 16  
<211> 10  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (4)..(4)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base

<222> (8)..(8)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (9)..(9)  
<223> n represents iso-cytosine

<400> 16  
gtcntagnnc

10

<210> 17  
<211> 10  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (2)..(2)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (6)..(6)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (9)..(9)  
<223> n represents iso-cytosine

<400> 17  
gncctntanc

10

<210> 18  
<211> 10  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (3)..(3)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (6)..(6)  
<223> n represents iso-cytosine



<400> 18  
ccnacntgag

10

<210> 19  
<211> 10  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (3)..(3)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (4)..(4)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (7)..(7)  
<223> n represents iso-cytosine

<400> 19  
ctnnncanagg

10

<210> 20  
<211> 10  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (3)..(3)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (6)..(6)  
<223> n represents iso-cytosine

<400> 20  
gtnganatgc

10

<210> 21  
<211> 10

<212> DNA  
<213> Artificial  
  
<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (5)..(5)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (8)..(8)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (9)..(9)  
<223> n represents iso-cytosine

<400> 21  
gaaantgnng

10

<210> 22  
<211> 10  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (5)..(5)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (7)..(7)  
<223> n represents iso-cytosine

<400> 22  
gctgnanatc

10

<210> 23  
<211> 10  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (5)..(5)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (8)..(8)  
<223> n represents iso-cytosine

<400> 23  
cgcanatnac

10

<210> 24  
<211> 10  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (5)..(5)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (8)..(8)  
<223> n represents iso-cytosine

<400> 24  
ctggntcnag

10

<210> 25  
<211> 10  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (5)..(5)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (7)..(7)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base

<222> (8)..(8)  
<223> n represents iso-cytosine

<400> 25  
ggaananncc

10

<210> 26  
<211> 10  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (2)..(2)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (7)..(7)  
<223> n represents iso-cytosine

<400> 26  
cntcgcntac

10

<210> 27  
<211> 10  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (2)..(2)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (4)..(4)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (9)..(9)  
<223> n represents iso-cytosine

<400> 27  
gncnaaaang

10

<210> 28  
<211> 10  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (2)..(2)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (3)..(3)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (7)..(7)  
<223> n represents iso-cytosine

<400> 28  
cnngacnadc

10

<210> 29  
<211> 10  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (5)..(5)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (8)..(8)  
<223> n represents iso-cytosine

<400> 29  
ccatnagncc

10

<210> 30  
<211> 10  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (5)..(5)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (7)..(7)  
<223> n represents iso-cytosine

<400> 30  
ggcantntgg

10

<210> 31  
<211> 10  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (3)..(3)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (7)..(7)  
<223> n represents iso-cytosine

<400> 31  
ctnaacnggg

10

<210> 32  
<211> 9  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (4)..(4)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (8)..(8)  
<223> n represents iso-cytosine

<400> 32  
gganacgng

9

<210> 33  
<211> 10  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (4)..(4)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (9)..(9)  
<223> n represents iso-cytosine

<400> 33  
gcgntttang

10

<210> 34  
<211> 10  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (4)..(4)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (7)..(7)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (9)..(9)  
<223> n represents iso-cytosine

<400> 34  
gagnagntnc

10

<210> 35  
<211> 10  
<212> DNA

<213> Artificial

<220>

<223> synthetic oligonucleotide

<220>

<221> modified\_base

<222> (2)..(2)

<223> n represents iso-cytosine

<220>

<221> modified\_base

<222> (7)..(7)

<223> n represents iso-cytosine

<400> 35

gnctaancgcg

10

<210> 36

<211> 10

<212> DNA

<213> Artificial

<220>

<223> synthetic oligonucleotide

<220>

<221> modified\_base

<222> (3)..(3)

<223> n represents iso-cytosine

<220>

<221> modified\_base

<222> (7)..(7)

<223> n represents iso-cytosine

<400> 36

gcntgtncac

10

<210> 37

<211> 10

<212> DNA

<213> Artificial

<220>

<223> synthetic oligonucleotide

<220>

<221> modified\_base

<222> (2)..(2)

<223> n represents iso-cytosine

<220>



<221> modified\_base  
<222> (7)..(7)  
<223> n represents iso-cytosine

<400> 37  
gncagantcg

10

<210> 38  
<211> 10  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (4)..(4)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (9)..(9)  
<223> n represents iso-cytosine

<400> 38  
cgtnctagng

10

<210> 39  
<211> 10  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (3)..(3)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (4)..(4)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (9)..(9)  
<223> n represents iso-cytosine

<400> 39  
cgnntagtnng

10

<210> 40  
<211> 10  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (2)..(2)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (6)..(6)  
<223> n represents iso-cytosine

<400> 40  
cnagгнаacc

10

<210> 41  
<211> 10  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (2)..(2)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (6)..(6)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (9)..(9)  
<223> n represents iso-cytosine

<400> 41  
cnagangang

10

<210> 42  
<211> 9  
<212> DNA  
<213> Artificial

<220>

<223> synthetic oligonucleotide

<220>

<221> modified\_base

<222> (3)..(3)

<223> n represents iso-cytosine

<220>

<221> modified\_base

<222> (6)..(6)

<223> n represents iso-cytosine

<400> 42

cgntgngtc

9

<210> 43

<211> 10

<212> DNA

<213> Artificial

<220>

<223> synthetic oligonucleotide

<220>

<221> modified\_base

<222> (4)..(4)

<223> n represents iso-cytosine

<220>

<221> modified\_base

<222> (8)..(8)

<223> n represents iso-cytosine

<400> 43

cagncgtnag

10

<210> 44

<211> 10

<212> DNA

<213> Artificial

<220>

<223> synthetic oligonucleotide

<220>

<221> modified\_base

<222> (5)..(5)

<223> n represents iso-cytosine

<220>

<221> modified\_base

<222> (8)..(8)

<223> n represents iso-cytosine

<220>

<400> 44

ggctntgnac

10

<210> 45

<211> 10

<212> DNA

<213> Artificial

<220>

<223> synthetic oligonucleotide

<220>

<221> modified\_base

<222> (5)..(5)

<223> n represents iso-cytosine

<220>

<221> modified\_base

<222> (7)..(7)

<223> n represents iso-cytosine

<400> 45

ccagngnaag

10

<210> 46

<211> 10

<212> DNA

<213> Artificial

<220>

<223> synthetic oligonucleotide

<220>

<221> modified\_base

<222> (4)..(4)

<223> n represent iso-cytosine

<220>

<221> modified\_base

<222> (8)..(8)

<223> n represent iso-cytosine

<400> 46

ggcnaatngc

10

<210> 47

<211> 9

<212> DNA

<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (2)..(2)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (7)..(7)  
<223> n represents iso-cytosine

<400> 47  
gnctgcngg

9

<210> 48  
<211> 10  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (3)..(3)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (6)..(6)  
<223> n represents iso-cytosine

<400> 48  
ganctncggc

10

<210> 49  
<211> 10  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (3)..(3)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (7)..(7)

<223> n represents iso-cytosine

<400> 49  
gtncganggg

10

<210> 50  
<211> 10  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (3)..(3)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (4)..(4)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (9)..(9)  
<223> n represents iso-cytosine

<400> 50  
ggnnatcng

10

<210> 51  
<211> 10  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (2)..(2)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (7)..(7)  
<223> n represents iso-cytosine

<400> 51  
gncttcnatg

10

<210> 52

<211> 10  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (2)..(2)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (7)..(7)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (8)..(8)  
<223> n represents iso-cytosine

<400> 52  
cntcttnncc

10

<210> 53  
<211> 10  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (5)..(5)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (7)..(7)  
<223> n represents iso-cytosine

<400> 53  
ctctnanccc

10

<210> 54  
<211> 10  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (4)..(4)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (9)..(9)  
<223> n represents iso-cytosine

<400> 54  
ctcntggtnc

10

<210> 55  
<211> 10  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (2)..(2)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (7)..(7)  
<223> n represents iso-cytosine

<400> 55  
gncaaancac

10

<210> 56  
<211> 10  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (4)..(4)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (7)..(7)  
<223> n represents iso-cytosine



<400> 56  
gttngcnttg

10

<210> 57  
<211> 10  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (2)..(2)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (4)..(4)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (6)..(6)  
<223> n represents iso-cytosine

<400> 57  
cncntncaac

10

<210> 58  
<211> 10  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (3)..(3)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (4)..(4)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (8)..(8)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base

<222> (9)..(9)  
<223> n represents iso-cytosine

<400> 58  
ctnnacannc

10

<210> 59  
<211> 10  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (2)..(2)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (7)..(7)  
<223> n represents iso-cytosine

<400> 59  
cnactcnacc

10

<210> 60  
<211> 10  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (4)..(4)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (7)..(7)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (8)..(8)  
<223> n represents iso-cytosine

<400> 60  
gacncanntg

10

<210> 61  
<211> 10  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (4)..(4)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (7)..(7)  
<223> n represents iso-cytosine

<400> 61  
ctcnctnacg

10

<210> 62  
<211> 10  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (5)..(5)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (8)..(8)  
<223> n represents iso-cytosine

<400> 62  
gtggnctntc

10

<210> 63  
<211> 10  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (3)..(3)

<223> n represents iso-cytosine

<220>

<221> modified\_base

<222> (4)..(4)

<223> n represents iso-cytosine

<220>

<221> modified\_base

<222> (8)..(8)

<223> n represents iso-cytosine

<400> 63

cannaccnag

10

<210> 64

<211> 10

<212> DNA

<213> Artificial

<220>

<223> synthetic oligonucleotide

<220>

<221> modified\_base

<222> (3)..(3)

<223> n represents iso-cytosine

<220>

<221> modified\_base

<222> (5)..(5)

<223> n represents iso-cytosine

<220>

<221> modified\_base

<222> (7)..(7)

<223> n represents iso-cytosine

<400> 64

gtncnanacc

10

<210> 65

<211> 10

<212> DNA

<213> Artificial

<220>

<223> synthetic oligonucleotide

<220>

<221> modified\_base

<222> (4)..(4)

<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (5)..(5)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (8)..(8)  
<223> n represents iso-cytosine

<400> 65  
cacnntgntc

10

<210> 66  
<211> 10  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (2)..(2)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (7)..(7)  
<223> n represents iso-cytosine

<400> 66  
gntcctngtc

10

<210> 67  
<211> 10  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (3)..(3)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (4)..(4)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base

<222> (9)..(9)  
<223> n represents iso-cytosine

<400> 67  
ccnnatgtng

10

<210> 68  
<211> 10  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (2)..(2)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (7)..(7)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (8)..(8)  
<223> n represents iso-cytosine

<400> 68  
gnggttnntc

10

<210> 69  
<211> 10  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (2)..(2)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (6)..(6)  
<223> n represents iso-cytosine

<400> 69  
cnccgnaatc

10

<210> 70  
<211> 10  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (2)..(2)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (3)..(3)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (6)..(6)  
<223> n represents iso-cytosine

<400> 70  
gnnacnacac

10

<210> 71  
<211> 9  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (3)..(3)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (5)..(5)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (8)..(8)  
<223> n represents iso-cytosine

<400> 71  
gcncngtnc

9

<210> 72  
<211> 9

<212> DNA  
<213> Artificial  
  
<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (2)..(2)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (4)..(4)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (8)..(8)  
<223> n represents iso-cytosine

<400> 72  
gncngganc

9

<210> 73  
<211> 10  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (4)..(4)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (9)..(9)  
<223> n represents iso-cytosine

<400> 73  
cganagcanc

10

<210> 74  
<211> 10  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide



<220>  
<221> modified\_base  
<222> (5)..(5)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (9)..(9)  
<223> n represents iso-cytosine

<400> 74  
cccantccnc

10

<210> 75  
<211> 10  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (3)..(3)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (6)..(6)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (7)..(7)  
<223> n represents iso-cytosine

<400> 75  
gtncmncag

10

<210> 76  
<211> 10  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (2)..(2)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base

<222> (7)..(7)  
<223> n represents iso-cytosine

<400> 76  
cncctancgg

10

<210> 77  
<211> 9  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (2)..(2)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (7)..(7)  
<223> n represents iso-cytosine

<400> 77  
gngttgncg

9

<210> 78  
<211> 10  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (2)..(2)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (6)..(6)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (8)..(8)  
<223> n represents iso-cytosine

<400> 78  
cnaagnancg

10

<210> 79  
<211> 10  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (5)..(5)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (7)..(7)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (8)..(8)  
<223> n represents iso-cytosine

<400> 79  
ggagncnntc

10

<210> 80  
<211> 10  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (2)..(2)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (4)..(4)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (6)..(6)  
<223> n represents iso-cytosine

<400> 80  
cngnangtac

10

<210> 81

<211> 10  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (2)..(2)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (7)..(7)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (9)..(9)  
<223> n represents iso-cytosine

<400> 81  
gnacgantng

10

<210> 82  
<211> 10  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (2)..(2)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (6)..(6)  
<223> n represents iso-cytosine

<400> 82  
gngctncatg

10

<210> 83  
<211> 10  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (4)..(4)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (9)..(9)  
<223> n represents iso-cytosine

<400> 83  
gtgnagagng

10

<210> 84  
<211> 9  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (5)..(5)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (7)..(7)  
<223> n represents iso-cytosine

<400> 84  
gccgncntc

9

<210> 85  
<211> 10  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (4)..(4)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (7)..(7)  
<223> n represents iso-cytosine

<400> 85  
caancgntcg

10

<210> 86  
<211> 10  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (5)..(5)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (8)..(8)  
<223> n represents iso-cytosine

<400> 86  
cacanacngc

10

<210> 87  
<211> 9  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (2)..(2)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (6)..(6)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (7)..(7)  
<223> n represents iso-cytosine

<400> 87  
gntggnnccg

9

<210> 88  
<211> 9  
<212> DNA

<213> Artificial  
 <220>  
 <223> synthetic oligonucleotide  
 <220>  
 <221> modified\_base  
 <222> (4)..(4)  
 <223> n represents iso-cytosine  
 <220>  
 <221> modified\_base  
 <222> (7)..(7)  
 <223> n represents iso-cytosine  
 <400> 88  
 gccnccngt

9

<210> 89  
 <211> 10  
 <212> DNA  
 <213> Artificial  
 <220>  
 <223> synthetic oligonucleotide  
 <220>  
 <221> modified\_base  
 <222> (2)..(2)  
 <223> n represents iso-cytosine  
 <220>  
 <221> modified\_base  
 <222> (4)..(4)  
 <223> n represents iso-cytosine  
 <220>  
 <221> modified\_base  
 <222> (9)..(9)  
 <223> n represents iso-cytosine  
 <400> 89  
 cnanggtcnc

10

<210> 90  
 <211> 9  
 <212> DNA  
 <213> Artificial  
 <220>  
 <223> synthetic oligonucleotide  
 <220>

<221> modified\_base  
<222> (3)..(3)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (4)..(4)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (6)..(6)  
<223> n represents iso-cytosine

<400> 90  
ccnngngtg

9

<210> 91  
<211> 10  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (3)..(3)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (6)..(6)  
<223> n represents iso-cytosine

<400> 91  
ggnacnccag

10

<210> 92  
<211> 10  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (5)..(5)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (7)..(7)



<223> n represents iso-cytosine

<400> 92  
gcctncngac

10

<210> 93  
<211> 10  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (2)..(2)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (5)..(5)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (9)..(9)  
<223> n represents iso-cytosine

<400> 93  
cnttnccgnc

10

<210> 94  
<211> 10  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (2)..(2)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (6)..(6)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (8)..(8)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (9)..(9)  
<223> n represents iso-cytosine

<400> 94  
cnctangnng

10

<210> 95  
<211> 9  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (2)..(2)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (5)..(5)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (8)..(8)  
<223> n represents iso-cytosine

<400> 95  
cngcnagng

9

<210> 96  
<211> 10  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (2)..(2)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (6)..(6)  
<223> n represents iso-cytosine

<400> 96  
cnagcnacgg

10

<210> 97  
<211> 10  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (5)..(5)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (8)..(8)  
<223> n represents iso-cytosine

<400> 97  
gacangcncc

10

<210> 98  
<211> 9  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (4)..(4)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (7)..(7)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (8)..(8)  
<223> n represents iso-cytosine

<400> 98  
gggncgna

9

<210> 99  
<211> 10  
<212> DNA  
<213> Artificial

<220>		
<223>	synthetic oligonucleotide	
<400>	99	
	gccagtttaa	10
<210>	100	
<211>	10	
<212>	DNA	
<213>	Artificial	
<220>		
<223>	synthetic oligonucleotide	
<220>		
<221>	modified_base	
<222>	(5)..(5)	
<223>	n represents iso-cytosine	
<400>	100	
	gccantttaa	10
<210>	101	
<211>	10	
<212>	DNA	
<213>	Artificial	
<220>		
<223>	synthetic oligonucleotide	
<220>		
<221>	modified_base	
<222>	(3)..(3)	
<223>	n represents iso-cytosine	
<400>	101	
	gcnagtttaa	10
<210>	102	
<211>	10	
<212>	DNA	
<213>	Artificial	
<220>		
<223>	synthetic oligonucleotide	
<220>		
<221>	modified_base	
<222>	(2)..(2)	
<223>	n represents iso-guanine	
<400>	102	

gncagtttaa 10

<210> 103  
<211> 10  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (2)..(2)  
<223> n represents iso-guanine

<220>  
<221> modified\_base  
<222> (3)..(3)  
<223> n represents iso-guanine

<400> 103  
gnnagtttaa 10

<210> 104  
<211> 154  
<212> DNA  
<213> Mus musculus chromosome 10 genomic contig

<300>  
<308> NT\_039491.1  
<309> 2003-02-25  
<313> (1729106)..(1729259)

<400> 104  
agaaacaacc atctaattccc aactaaaaat tcaaggctcc acagacgaaa cagtgaagaa 60  
taattgttca gcatactaac caactgatta catatttacc atactcaggt ttgtgcttca 120  
tacaaaccca yagtcggcg ctccctgtta gatg 154

<210> 105  
<211> 61  
<212> DNA  
<213> Mus musculus chromosome 2 genomic contig

<300>  
<308> NT\_039209.1  
<309> 2003-02-25  
<313> (27172470)..(27172530)

<400> 105  
cttctcccat tgcccagggc actctcctct gtagartaga ctgatytgtg tggagacatc 60

a 61

<210> 106  
 <211> 67  
 <212> DNA  
 <213> Mus musculus chromosome 9 genomic contig  
  
 <300>  
 <308> NT\_039473.1  
 <309> 2003-02-25  
 <313> (532094)..(532160)  
  
 <400> 106  
 agtgccctgct acctgtcagg tgaaaatttc ttagtgatcc yaagctcaat ggggtgcyggc 60  
 ttgcagg 67  
  
 <210> 107  
 <211> 72  
 <212> DNA  
 <213> Mus musculus chromosome 18 genomic contig  
  
 <300>  
 <308> NT\_039674.1  
 <309> 2003-02-25  
 <313> (46479067)..(46479138)  
  
 <400> 107  
 ggttggaatg tttgcacatg cagtgttagt tatttgggyg ataactactt agcttatcta 60  
 gcctgggtcca gc 72  
  
 <210> 108  
 <211> 80  
 <212> DNA  
 <213> Mus musculus chromosome 17 genomic contig  
  
 <300>  
 <308> NT\_039662.1  
 <309> 2003-02-25  
 <313> (658679)..(658758)  
  
 <400> 108  
 ctgatctgac ctcagactgt tgtgctaaca gatataacac cagtaagttg astcaaatac 60  
 tgcaggaagt agagccttgc 80  
  
 <210> 109  
 <211> 89  
 <212> DNA  
  
 <213> Mus musculus chromosome 2 genomic contig  
  
 <300>

<308> NT\_039212.1  
 <309> 2003-02-25  
 <313> (3887249)..(3887337)

<400> 109  
 gactgtctgga gagctgaggg aggctgtgga gaataaggag agagcrtagt ctcgtgcctt 60  
 gccctgcca tactgagcag ccaagacac 89

<210> 110  
 <211> 96  
 <212> DNA  
 <213> Mus musculus chromosome 13 genomic contig

<300>  
 <308> NT\_039586.1  
 <309> 2003-02-25  
 <313> (6594595)..(6594690)

<400> 110  
 ggactgtcca aakggatctc aaggagaata gtccttgcta ttargagtat aaaggcataa 60  
 aagaggtcat aggggacaac catgaccaag aagttg 96

<210> 111  
 <211> 107  
 <212> DNA  
 <213> Mus musculus chromosome 12 genomic contig

<300>  
 <308> NT\_039551.1  
 <309> 2003-02-25  
 <313> (15414183)..(15414289)

<400> 111  
 ccttcctgca ytccacagta taaacacaga atgcacactg crgtcgttgt atttgtgttc 60  
 gatgtgaatt aaagatgctt tggctaagcc aggagatgat aatactg 107

<210> 112  
 <211> 129  
 <212> DNA  
 <213> Mus musculus chromosome 2 genomic contig

<300>  
 <308> NT\_039209.1  
 <309> 2003-02-25  
 <313> (26992396)..(26992524)

<400> 112  
 cacatacacc atgtcagcca tcagcgcaaa gccttcgagt ttcagctgtg agatgaaggc 60  
 ttggagaagc acgttgatct gcaaagaagc aaaggagcta gcggaggcyg gtcactgacc 120  
 gactgctca 129

<210> 113  
<211> 18  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<400> 113  
catctaacag ggagcgcc

18

<210> 114  
<211> 24  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (1)..(1)  
<223> n represents deoxythymidylate labeled with 6-carboxyfluorescein  
(6-FAM)

<400> 114  
nagaaacaac catctaattcc caca

24

<210> 115  
<211> 19  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (1)..(1)  
<223> n represents deoxythymidylate labeled with 6-carboxyfluorescein  
(6-FAM)

<400> 115  
ncttctccca ttgcccagg

19

<210> 116  
<211> 23  
<212> DNA



<213> Artificial  
 <220>  
 <223> synthetic oligonucleotide  
 <400> 116  
 tgatgtctcc acaaagatca gtc 23

<210> 117  
 <211> 19  
 <212> DNA  
 <213> Artificial  
 <220>  
 <223> synthetic oligonucleotide  
 <400> 117  
 agtgcctgct acctgtcag 19

<210> 118  
 <211> 17  
 <212> DNA  
 <213> Artificial  
 <220>  
 <223> synthetic oligonucleotide

<220>  
 <221> modified\_base  
 <222> (1)..(1)  
 <223> n represents deoxythymidylate labeled with 6-carboxyfluorescein  
 (6-FAM)  
 <400> 118  
 ncctgcaagc cagcacc 17

<210> 119  
 <211> 22  
 <212> DNA  
 <213> Artificial  
 <220>  
 <223> synthetic oligonucleotide

<220>  
 <221> modified\_base  
 <222> (1)..(1)  
 <223> n represents deoxythymidylate labeled with 6-carboxyfluorescein  
 (6-FAM)  
 <400> 119

ngggttggaat gtttgacat gc

22

<210> 120  
<211> 21  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<400> 120  
gctggaccag gctagataag c

21

<210> 121  
<211> 23  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (1)..(1)  
<223> n represents deoxythymidylate labeled with 6-carboxyfluorescein  
(6-FAM)

<400> 121  
nctgatctga cctcagactg ttg

23

<210> 122  
<211> 19  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<400> 122  
gcaaggctct acttcctgc

19

<210> 123  
<211> 20  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base

<222> (1)..(1)  
 <223> n represents deoxythymidylate labeled with 6-carboxyfluorescein  
 (6-FAM)

<400> 123  
 ngactgctgg agagctgagg 20

<210> 124  
 <211> 21  
 <212> DNA  
 <213> Artificial

<220>  
 <223> synthetic oligonucleotide

<400> 124  
 gtgtcttggc tgctcagtat g 21

<210> 125  
 <211> 21  
 <212> DNA  
 <213> Artificial

<220>  
 <223> synthetic oligonucleotide

<220>  
 <221> modified\_base  
 <222> (1)..(1)  
 <223> n represents deoxythymidylate labeled with 6-carboxyfluorescein  
 (6-FAM)

<400> 125  
 nggactgtcc aaagggatct c 21

<210> 126  
 <211> 22  
 <212> DNA  
 <213> Artificial

<220>  
 <223> synthetic oligonucleotide

<400> 126  
 caacttcttg gtcattggtg tc 22

<210> 127  
 <211> 19  
 <212> DNA  
 <213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base

<222> (1)..(1)  
<223> n represents indodicarbocyanine  
3-1-O-(2-cyanoethyl)-(N,N-diisopropyl)-phosphoramidite (Cy3)

<400> 127  
nccttcctgc aytccacag 19

<210> 128  
<211> 26  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (1)..(1)  
<223> n represents deoxythymidylate labeled with 6-carboxyfluorescein  
(6-FAM)

<400> 128  
ncagtattat catctcctgg cttagc 26

<210> 129  
<211> 20  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (1)..(1)  
<223> n represents deoxythymidylate labeled with 6-carboxyfluorescein  
(6-FAM)

<400> 129  
ncacatacac catgtcagcc 20

<210> 130  
<211> 17

<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<400> 130  
tgagcagtcg gtcagtg

17

<210> 131  
<211> 28  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (4)..(4)  
<223> n represents iso-guanine

<220>  
<221> modified\_base  
<222> (8)..(8)  
<223> n represents iso-guanine

<220>  
<221> misc\_feature  
<222> (11)..(11)  
<223> n represents a n-propylene spacer (c3)

<400> 131  
gtgnacangc ngcttcatac aaaccac

28

<210> 132  
<211> 28  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (4)..(4)  
<223> n represents iso-guanine

<220>  
<221> modified\_base  
<222> (9)..(9)  
<223> n represents iso-guanine

<220>

<221> misc\_feature  
<222> (11)..(11)  
<223> n represents a n-propylene spacer (c3)

<400> 132  
cgantctgnc ngcttcatac aaacccat

28

<210> 133  
<211> 28  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (4)..(4)  
<223> n represents iso-guanine

<220>  
<221> modified\_base  
<222> (8)..(8)  
<223> n represents iso-guanine

<220>  
<221> misc\_feature  
<222> (11)..(11)  
<223> n represents a n-propylene spacer (c3)

<400> 133  
ctancaancc ncactctcct ctgtagaa

28

<210> 134  
<211> 28  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (5)..(5)  
<223> n represents iso-guanine

<220>  
<221> modified\_base  
<222> (7)..(7)  
<223> n represents iso-guanine

<220>  
<221> misc\_feature  
<222> (11)..(11)

<223> n represents a n-propylene spacer (c3)

<400> 134

gagancnaag ncactctcct ctgtagag

28

<210> 135

<211> 31

<212> DNA

<213> Artificial

<220>

<223> synthetic oligonucleotide

<220>

<221> modified\_base

<222> (5)..(5)

<223> n represents iso-guanine

<220>

<221> modified\_base

<222> (9)..(9)

<223> n represents iso-guanine

<220>

<221> misc\_feature

<222> (11)..(11)

<223> n represents a n-propylene spacer (c3)

<400> 135

gttcntgang ngaaaatttc ttagtgatcc t

31

<210> 136

<211> 30

<212> DNA

<213> Artificial

<220>

<223> synthetic oligonucleotide

<220>

<221> modified\_base

<222> (3)..(3)

<223> n represents iso-guanine

<220>

<221> modified\_base

<222> (6)..(6)

<223> n represents iso-guanine

<220>

<221> misc\_feature

<222> (11)..(11)

<223> n represents a n-propylene spacer (c3)

<400> 136

gcntanctac naaaatttct tagtgatccc

30

<210> 137

<211> 29

<212> DNA

<213> Artificial

<220>

<223> synthetic oligonucleotide

<220>

<221> modified\_base

<222> (5)..(5)

<223> n represents iso-guanine

<220>

<221> modified\_base

<222> (7)..(7)

<223> n represents iso-guanine

<220>

<221> misc\_feature

<222> (11)..(11)

<223> n represents a n-propylene spacer (c3)

<400> 137

ggtanctcc nagtgtagt tatttgggt

29

<210> 138

<211> 28

<212> DNA

<213> Artificial

<220>

<223> synthetic oligonucleotide

<220>

<221> modified\_base

<222> (4)..(4)

<223> n represents iso-guanine

<220>

<221> modified\_base

<222> (9)..(9)

<223> n represents iso-guanine

<220>

<221> misc\_feature

<222> (11)..(11)

<223> n represents a n-propylene spacer (c3)



<400> 138  
cacnatacng ngtgtagtt atttgggc

28

<210> 139  
<211> 29  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (2)..(2)  
<223> n represents iso-guanine

<220>  
<221> modified\_base  
<222> (7)..(7)  
<223> n represents iso-guanine

<220>  
<221> misc\_feature  
<222> (11)..(11)  
<223> n represents a n-propylene spacer (c3)

<400> 139  
cntaccnatg ntaacaccag taagttgac

29

<210> 140  
<211> 29  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (2)..(2)  
<223> n represents iso-guanine

<220>  
<221> modified\_base  
<222> (6)..(6)  
<223> n represents iso-guanine

<220>  
<221> misc\_feature  
<222> (11)..(11)  
<223> n represents a n-propylene spacer (c3)

<400> 140

gncganaatc ntaacaccag taagttgag

29

<210> 141  
<211> 28  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (2)..(2)  
<223> n represents iso-guanine

<220>  
<221> modified\_base  
<222> (7)..(7)  
<223> n represents iso-guanine

<220>  
<221> misc\_feature  
<222> (11)..(11)  
<223> n represents a n-propylene spacer (c3)

<400> 141  
gncgtanttg nagaataagg agagagca

28

<210> 142  
<211> 27  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (3)..(3)  
<223> n represents iso-guanine

<220>  
<221> modified\_base  
<222> (7)..(7)  
<223> n represents iso-guanine

<220>  
<221> misc\_feature  
<222> (11)..(11)  
<223> n represents a n-propylene spacer (c3)

<400> 142  
gtntatnccg ngaataagga gagagcg

27

<210> 143  
<211> 31  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (5)..(5)  
<223> n represents iso-guanine

<220>  
<221> modified\_base  
<222> (8)..(8)  
<223> n represents iso-guanine

<220>  
<221> misc\_feature  
<222> (11)..(11)  
<223> n represents a n-propylene spacer (c3)

<400> 143  
gacnacntc nagaatagtc cttgctatta a

31

<210> 144  
<211> 31  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (5)..(5)  
<223> n represents iso-guanine

<220>  
<221> modified\_base  
<222> (9)..(9)  
<223> n represents iso-guanine

<220>  
<221> misc\_feature  
<222> (11)..(11)  
<223> n represents a n-propylene spacer (c3)

<400> 144  
ggaanaacng nagaatagtc cttgctatta g

31

<210> 145  
<211> 26  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (4)..(4)  
<223> n represents iso-guanine

<220>  
<221> modified\_base  
<222> (6)..(6)  
<223> n represents iso-guanine

<220>  
<221> misc\_feature  
<222> (11)..(11)  
<223> n represents a n-propylene spacer (c3)

<400> 145  
gatntncagc nagaatgcac actgca

26

<210> 146  
<211> 25  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (3)..(3)  
<223> n represents iso-guanine

<220>  
<221> modified\_base  
<222> (6)..(6)  
<223> n represents iso-guanine

<220>  
<221> misc\_feature  
<222> (11)..(11)  
<223> n represents a n-propylene spacer (c3)

<400> 146  
gtnatntgcg ngaatgcaca ctgcg

25

<210> 147

<211> 24  
 <212> DNA  
 <213> Artificial  
  
 <220>  
 <223> synthetic oligonucleotide

<220>  
 <221> modified\_base  
 <222> (4)..(4)  
 <223> n represents iso-guanine

<220>  
 <221> modified\_base  
 <222> (8)..(8)  
 <223> n represents iso-guanine

<220>  
 <221> modified\_base  
 <222> (9)..(9)  
 <223> n represents iso-guanine

<220>  
 <221> misc\_feature  
 <222> (11)..(11)  
 <223> n represents a n-propylene spacer (c3)

<400> 147  
 gatngtcnng ngctagcgga ggcc

24

<210> 148  
 <211> 24  
 <212> DNA  
 <213> Artificial

<220>  
 <223> synthetic oligonucleotide

<220>  
 <221> modified\_base  
 <222> (3)..(3)  
 <223> n represents iso-guanine

<220>  
 <221> modified\_base  
 <222> (6)..(6)  
 <223> n represents iso-guanine

<220>  
 <221> misc\_feature  
 <222> (11)..(11)  
 <223> n represents a n-propylene spacer (c3)

<400> 148  
 ggnctnatgg ngctagcgga ggct

24

<210> 149  
<211> 61  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<400> 149  
cttctcccat tgcccagggc actctcctct gtagartaga ctgatytttg tggagacatc 60  
a 61

<210> 150  
<211> 35  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (2)..(2)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (5)..(5)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (8)..(8)  
<223> n represents iso-cytosine

<220>  
<221> modified\_base  
<222> (12)..(12)  
<223> n represents iso-cytosine

<400> 150  
cngcnagnga tntgatgtct ccacaaagat cagtc 35

<210> 151  
<211> 28  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (4)..(4)  
<223> n represents iso-guanine

<220>  
<221> modified\_base  
<222> (8)..(8)  
<223> n represents iso-guanine

<220>  
<221> misc\_feature  
<222> (11)..(11)  
<223> n represents a n-propylene spacer (c3)

<400> 151  
ctancaancc ncactctcct ctgtagaa

28

<210> 152  
<211> 28  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (5)..(5)  
<223> n represents iso-guanine

<220>  
<221> modified\_base  
<222> (7)..(7)  
<223> n represents iso-guanine

<220>  
<221> misc\_feature  
<222> (11)..(11)  
<223> n represents a n-propylene spacer (c3)

<400> 152  
gagancnaag ncactctcct ctgtagag

28

<210> 153  
<211> 13  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> misc\_feature

<222> (1)..(1)  
<223> n represents a 5'-phosphate

<220>  
<221> modified\_base  
<222> (2)..(2)  
<223> n represents iso-guanine

<220>  
<221> modified\_base  
<222> (6)..(6)  
<223> n represents iso-guanine

<220>  
<221> modified\_base  
<222> (9)..(9)  
<223> n represents iso-guanine

<220>  
<221> modified\_base  
<222> (12)..(12)  
<223> n represents iso-guanine

<400> 153  
nnatcnctng cng

13

<210> 154  
<211> 18  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<400> 154  
agaacccttt cctcttcc

18

<210> 155  
<211> 47  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<400> 155  
aagaaccctt tcctcttccg atgcaggata cttaacaata aatattt

47

<210> 156  
<211> 39  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide



<400> 156  
gcagacagga yaaatattta ttgttaagta tcctgcatc

39

<210> 157  
<211> 20  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (2)..(2)  
<223> n represents iso-cytosine

<400> 157  
tncatctaac agggagcgcc

20

<210> 158  
<211> 25  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (2)..(2)  
<223> n represents iso-cytosine

<400> 158  
tntgatgtct ccacaaagat cagtc

25

<210> 159  
<211> 18  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (2)..(2)  
<223> n represents iso-cytosine

<400> 159  
tncctgcaag ccagcacc

18

<210> 160  
<211> 23  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (2)..(2)  
<223> n represents iso-cytosine

<400> 160  
tngctggacc aggctagata agc

23

<210> 161  
<211> 21  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (2)..(2)  
<223> n represents iso-cytosine

<400> 161  
tngcaaggct ctacttcctg c

21

<210> 162  
<211> 23  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (2)..(2)  
<223> n represents iso-cytosine

<400> 162  
tngtgtcttg gctgctcagt atg

23

<210> 163  
<211> 24

<212> DNA  
<213> Artificial  
  
<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (2)..(2)  
<223> n represents iso-cytosine

<400> 163  
tncaacttct tggcatggt tgtc

24

<210> 164  
<211> 20  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (2)..(2)  
  
<223> n represents iso-cytosine

<400> 164  
tnccttctg cactccacag

20

<210> 165  
<211> 19  
<212> DNA  
<213> Artificial

<220>  
<223> synthetic oligonucleotide

<220>  
<221> modified\_base  
<222> (2)..(2)  
<223> n represents iso-cytosine

<400> 165  
tntgagcagt cggtcagtg

19